2N2484UB

Silicon NPN Transistor

Data Sheet

Description

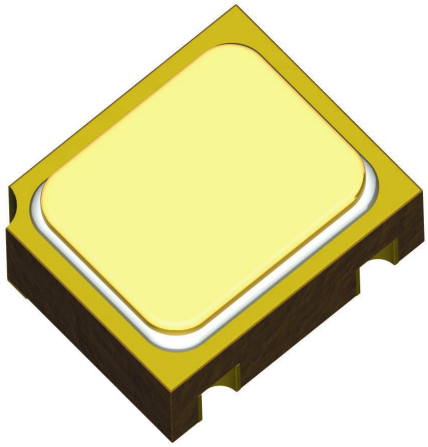
Semicoa Semiconductors offers:

- Screening and processing per MIL-PRF-19500 Appendix E
- JAN level (2N2484UBJ)
- JANTX level (2N2484UBJX)
- JANTXV level (2N2484UBJV)
- JANS level (2N2484UBJS)
- QCI to the applicable level
- 100% die visual inspection per MIL-STD-750 method 2072 for JANTXV and JANS
- Radiation testing (total dose) upon request

Please contact Semicoa for special configurations
www.***SEMICOA***.com or (714) 979-1900

Applications

- General purpose
- Low power
- NPN silicon transistor



Features

- Hermetically sealed Cersot ceramic
- Also available in chip configuration
- Chip geometry 0307
- Reference document: MIL-PRF-19500/376

Benefits

- Qualification Levels: JAN, JANTX, JANTXV and JANS
- Radiation testing available

Absolute Maximum Ratings

T_C = 25°C unless otherwise specified

Parameter	Symbol	Rating	Unit
Collector-Emitter Voltage	V_{CEO}	60	Volts
Collector-Base Voltage	V_{CBO}	60	Volts
Emitter-Base Voltage	V_{EBO}	6	Volts
Collector Current, Continuous	I_C	50	mA
Power Dissipation, T_A = 25°C Derate linearly above 25°C	P_T	360 2.06	mW mW/°C
Thermal Resistance	$R_{\theta JA}$	325	°C/W
Operating Junction Temperature	T_J	-65 to +200	°C
Storage Temperature	T_{STG}	-65 to +200	°C

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ELECTRICAL CHARACTERISTICS

characteristics specified at T_A = 25°C

Off Characteristics

Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 10 mA	60			Volts
Collector-Base Cutoff Current	I_{CBO1} I_{CBO2} I_{CBO3}	V_{CB} = 60 Volts V_{CB} = 45 Volts V_{CB} = 45 Volts, T_A = 150°C			10 5 10	µA nA µA
Collector-Emitter Cutoff Current	I_{CEO}	V_{CE} = 5 Volts			2	nA
Collector-Emitter Cutoff Current	I_{CES}	V_{CE} = 45 Volts			5	nA
Emitter-Base Cutoff Current	I_{EBO1} I_{EBO2}	V_{EB} = 6 Volts V_{EB} = 5 Volts			10 2	µA nA

On Characteristics

Pulse Test: Pulse Width = 300 µs, Duty Cycle ≤ 2.0%

Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
DC Current Gain	h_{FE1} h_{FE2} h_{FE3} h_{FE4} h_{FE5} h_{FE6} h_{FE7}	I_C = 1 µA, V_{CE} = 5 Volts I_C = 10 µA, V_{CE} = 5 Volts I_C = 100 µA, V_{CE} = 5 Volts I_C = 500 µA, V_{CE} = 5 Volts I_C = 1 mA, V_{CE} = 5 Volts I_C = 10 mA, V_{CE} = 5 Volts I_C = 10 µA, V_{CE} = 5 Volts T_A = -55°C	45 200 225 250 250 225 35		 500 675 800 800 800	
Base-Emitter Voltage	V_{BE}	V_{CE} = 5 Volts, 100 µA	0.5		0.7	Volts
Collector-Emitter Saturation Voltage	V_{CEsat1}	I_C = 1 mA, I_B = 100 µA			0.3	Volts

Dynamic Characteristics

Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Magnitude – Common Emitter, Short Circuit Forward Current Transfer Ratio	$\|h_{FE}\|_1$ $\|h_{FE}\|_2$	V_{CE} = 5 Volts, I_C = 50 µA, f = 5 MHz V_{CE} = 5 Volts, I_C = 500 µA, f = 30 MHz	3 2		 7	
Small Signal Short Circuit Forward Current Transfer Ratio	h_{FE}	V_{CE} = 5 Volts, I_C = 1 mA, f = 1 kHz	250		900	
Open Circuit Output Capacitance	C_{OBO}	V_{CB} = 5 Volts, I_E = 0 mA, 100 kHZ < f < 1 MHz			5	pF
Open Circuit Input Capacitance	C_{IBO}	V_{EB} = 0.5 Volts, I_C = 0 mA, 100 kHZ < f < 1 MHz			6	pF
Noise Figure	NF_1 NF_2 NF_3	V_{CE} = 5 Volts, I_C = 10 µA, R_g = 10 kΩ f = 100 Hz f = 1 kHz f = 10 kHz			 7.5 3 2	dB
Noise Figure (wideband)	NF_4	V_{CE} = 5 Volts, I_C = 10 µA, R_g = 10 kΩ, 10Hz < Noise BW <15.7kHz			3	dB
Short Circuit Input Impedance Open Circuit Output Admittance Open Circuit Rev Volt Transfer Ratio	h_{ie} h_{oe} h_{re}	V_{CB} = 5V, I_C = 1mA, f = 1kHz	3.5		24 40 $8x10^{-4}$	kΩ µmhos